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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,271	11/20/2003	Richard Podolsky	92717-00354USPT	9976
7590 12/28/2006 JENKENS & GILCHRIST, A PROFESSIONAL CORPORATION Ross T. Robinson Suite 3200 1445 Ross Avenue Dallas, TX 75202			EXAMINER FERRIS III, FRED O	
			ART UNIT 2128	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/28/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/718,271	PODOLSKY, RICHARD	
	Examiner	Art Unit	
	Fred Ferris	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-45 have been presented for examination based on applicant's disclosure filed 20 November 2003. Claims 1-45 are pending in this application and stand rejected by the examiner.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

MPEP Section 608.02(d) [R-2] "Complete Illustration in Drawings" recites the following:

"37 CFR 1.83. Content of drawing.

(a) The drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation"

In this case, none of the drawings (Figs. 1-7) show elements or features for modeling a challenged bird, modeling a challenged bird as a curved surface, modeling a challenge animal, or modeling a wind park (only a single turbine model is demonstrated) It is also noted that figures 1-7 as submitted 20 November 2003 are informal and acceptable for examination purposes only. Since the current drawings are informal they are objected to. New formal drawings will be required when claims are allowed.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-45 are rejected under 35 U.S.C. 101 because the claimed invention is drawn to non-statutory subject matter.

Per claims 1-15 and 31-37: The Examiner submits that, in view of the language of the claims, independent method claims 1, and 31, do not appear to recite a result that is concrete and tangible. In this case the result appears to merely be numerical representation that is a "probability" of an avian collision. The examiner submits that in order to establish a practical application, there must be either a physical transformation, or a useful, concrete and tangible result. Data transformation is not the same as a physical transformation. Here, the result of "calculating a probability" is simply a mathematical computation resulting in an un-stored and un-applied number, not a physical transformation. "Probability", in this case, is a thought or computation, and not in and of itself a concrete and tangible result. It is not until the result is applied in a

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meaningful way that it has real world value and becomes a concrete and tangible result.

For example, there does not appear to be a concrete and tangible result that is specifically applied to and stored to achieve the intended method as recited in the preamble of the claim.

MPEP 2106 recites the following:

*"A. Identify and Understand Any Practical Application Asserted for the Invention
The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and **tangible result**." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of **"real world" value**, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.*

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

Although the courts have yet to define the terms useful, concrete, and tangible in the context of the practical application requirement for purposes of these guidelines, the following examples illustrate claimed inventions that have a practical application because they produce useful, concrete, and tangible result:

- Claims drawn to a long-distance telephone billing process containing mathematical algorithms were held to be directed to patentable subject matter because "the claimed process applies the Boolean principle to produce a useful, concrete, **tangible result** without pre-empting other uses of the mathematical principle." AT & T Corp. v. Excel Communications, Inc., 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999);*
- "[T]ransformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces a useful, concrete and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601; and*
- Claims drawn to a rasterizer for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means were held to be directed to patentable subject matter since the claims defined "a specific machine to*

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produce a useful, concrete, and **tangible result**." *In re Alappat*, 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994).

A process that consists solely of the manipulation of an **abstract idea is not concrete or tangible**. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459. Office personnel have the burden to establish a *prima facie* case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result. Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. 101. Compare *Musgrave*, 431 F.2d at 893, 167 USPQ at 289; *In re Foster*, 438 F.2d 1011, 1013, 169 USPQ 99, 101 (CCPA 1971). Further, when such a rejection is made, Office personnel must expressly state how the language of the claims has been interpreted to support the rejection."

Claims 16-30 and 38-45 are simply the program code and medium for the method of claims 1-15 and 31-37 and therefore suffer the same deficiency. Dependent claims inherit the defects of the claims from which they depend.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 4 and 31-45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Specifically, the specification does not appear to contain an enabling teaching of the following claimed elements:

- *modeling a challenged bird as a curved surface (claim 4, only bird length and wingspan are considered, pp. 11)*

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- modeling a challenged animal (claims 31-45, only avian type are considered)
- non linear flight path (claims 15, 30, there in are no model element disclosed where adjusting the speed would alter the flight path).

The examiner submits that the specification appears to be silent on the elements noted above. Dependent claims inherit the defect of the claims from which they depend.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In this instance, it is unclear what applicants are intending the claim to be by the recitation of a challenged-bird model. While the specification appears to contain sufficient detail to clarify the wind-turbine model (pages 6-21, Figs. 1-5 and 7), there does not appear to be a sufficient corresponding clear teaching of the challenged bird model. For example, there does not appear to be a bird flight path disclosed. The model appears to simply be unidirectional and considers only speed and elevation. It is therefore unclear what applicants are intending the scope of the claim to be (e.g. meters and bounds) for the term "challenged". Clarification is respectfully requested. Also as noted above, there appears to be no teaching of a challenged animal model.

Claim Rejections - 35 USC § 102/103

6. Claims 1-45 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over “The mathematical model of bird collisions with wind turbine rotors”, V.A. Tucker, *Journal of Solar Energy Engineering*, Vol. 118, issue 4, November 1996.

Tucker anticipates/renders obvious the limitations of the present invention as currently claimed as follows:

Regarding independent claim 1: *Tucker teaches a mathematical method for calculating probability of collision by birds with a wind turbine inclusive of modeling wind turbine (Section 2.0, 3.0, Figs. 1-3, Section 4.0, pp. 254 – nomenclature) modeling a challenged bird (4.0-6.2, Figs. 3-7, Tab. 1), at least one wind turbine wind park (Section 1.0-3.0, Figs. 1-3), and calculating the probability of wind-turbine collision by bird (Section 3.4-6.1.2, Fig. 8, Tab. 2), where calculating uses (combines) wind-turbine model, the challenged-bird model, and wind-park model. (2.0-6.2, Figs. 3-8, Tab. 1, 2)*

Per dependent claims 2, 3: *dimensionally modeling the wind turbine and inputting rotor speed, blade depth, blade width, modeling monopole and dimensionally modeling the wind (Section 2-4.0, pp. 254 – nomenclature, Figs. 1-3).*

Per claims 4-7: *wind park parameter for multiple turbines (Section 3.0, 7.0, Fig. 1, Tab. 1).*

Per claims 8-10: *worse/best case probability (e.g. mean, 4.2, 6.1, 7.3, 7.3, Tabs. 2, 3)*

Per claims 12-15: path elevation and attractor and avoider (Section 5, 6 - path modeling, the claimed attractor and avoider appear to simply imply size and are therefore anticipated/rendered obvious by the aspect ratio teachings of Tucker (pp. 254).

Regarding claims 16-30: These claims simply claim the computer code and medium for executing the elements of claims 1-15 and are therefore rejected using the same reasoning as cited above. In this instance, at skilled artisan having access to the teachings of Tucker as noted above, would have knowingly realized the claimed models for calculating probability of collision by birds with a wind turbine using processor instructions on a computer readable medium. Otherwise, the invention as claimed could not operate.

While claims 31-45 appear to lack enablement for the specific limitations relating to a "challenged-animal" as noted above under 112(1) rejection, Tucker anticipates/renderers obvious the limitations of the present invention as currently claimed as follows: (Here the examiner can only interpret the animal to be of avian type)

Regarding independent claim 31: Tucker teaches a mathematical method for calculating probability of collision by birds/animals with a wind turbine inclusive of modeling wind turbine (Section 2.0, 3.0, Figs. 1-3, Section 4.0, pp. 254 – nomenclature) modeling a challenged bird (4.0-6.2, Figs. 3-7, Tab. 1), at least one wind turbine wind park (Section 1.0-3.0, Figs. 1-3), and calculating the probability of wind-turbine collision by bird (Section 3.4-6.1.2, Fig. 8, Tab. 2), where calculating uses (combines) wind-

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turbine model, the challenged-bird/animal model, and wind-park model. (2.0-6.2, Figs. 3-8, Tab. 1, 2)

Per dependent claims 32,33: dimensionally modeling the wind turbine and inputting rotor speed, blade depth, blade width, modeling monopole and dimensionally modeling the wind (Section 2-4.0, pp. 254 – nomenclature, Figs. 1-3).

Per claims 34: wind park parameter for multiple turbines (Section 3.0, 7.0, Fig. 1, Tab. 1).

Per claims 35-37: worse/best case probability (e.g. mean, 4.2, 6.1, 7.3, 7.3, Tabs. 2, 3)

Regarding claims 38-45: These claims simply claim the computer code and medium for executing the elements of claims 31-37 and are therefore rejected using the same reasoning as cited above. In this instance, at skilled artisan having access to the teachings of Tucker as noted above, would have knowingly realized the claimed models for calculating probability of collision by birds/animals with a wind turbine using processor instructions on a computer readable medium. Otherwise, the invention as claimed could not operate.

In the alternative, claims 1-45 are rejected under 35 U.S.C. 103(a) as obvious over Tucker, since a skilled artisan having access to the teachings of Tucker would have knowingly modeled a “challenged” bird. An obvious motivation exists, since as noted in the prior art, bird collisions with turbine rotors and kill the bird and cause damage the wind plant rotors. (Tucker 1.0) Here, the examiner interprets the term

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"challenged-bird/animal" to simply imply one that will be "challenged" by the impending collision with turbine blades due to a specific path or navigational course.


Conclusion

7. *The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, careful consideration should be given prior to applicant's response to this Office Action.*

"Elsam. Offshore Wind Farm. Horns Rev Annual Status Report for Environmental Monitoring Programme, Tech-wise, October 2002 teaches avian wind turbine collision.

8. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778 and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 571-272-3700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached at 571-272-3780. The Official Fax Number is: (571) 273-8300*

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